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Public-Private Partnerships (PPP) in ASEAN: A Systematic Review of Implementation and Management Challenges

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Abstract

*Public–Private Partnerships (PPPs) are inherently complex and time-consuming due to their structural and operational intricacies. Collaboration between public and private entities introduces challenges related to role clarity, performance expectations, and stakeholder engagement, particularly as traditional government managerial roles evolve to accommodate PPP frameworks. Despite extensive research on the structural dynamics of PPPs, there remains limited understanding of the issues and challenges associated with their implementation and management across different regional contexts. Accordingly, this study addresses the following research question: What implementation and management challenges of Public–Private Partnerships (PPPs) are reported in the literature in ASEAN countries? Following the PRISMA 2020 protocol***,** *this systematic literature review examines empirical studies sourced from Scopus and Web of Science, published between 2020 and 2024. A structured screening and selection process was conducted, followed by qualitative thematic synthesis of the included studies. The methodological quality of the selected articles was assessed using the Mixed Methods Appraisal Tool (MMAT) to ensure the reliability of the evidence base. Using a combination of database filtering and qualitative analysis, 20 studies were identified and analyzed, leading to the identification of seven key themes. These themes primarily reflect challenges experienced at the individual and organizational levels of PPP management, while also highlighting the influence of broader institutional and contextual factors. The findings indicate that these challenges are interrelated, with certain factors influencing or reinforcing others. This review synthesizes current evidence on PPP implementation challenges in the ASEAN context and provides a foundation for future empirical research and policy discussions on strengthening PPP management practices.*

Keywords: *Public-Private Partnership (PPP), Issues and Challenges, PPP constraints*

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INTRODUCTION

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The growing utilisation of Public–Private Partnerships (PPPs) in delivering public services has created numerous commercial challenges for public sector organisations regarding their capacity to initiate, procure, and manage PPP projects (Zhang et al., 2023). Furthermore, the significance and maturity of PPPs vary considerably across national contexts (Sultani, 2022). Osei-Kyei and Chan (2017) argued that variations in the salience of PPP constraints reflect differences in the institutional attributes and market maturity of PPP environments between developed and developing economies. Many of these challenges can be attributed to the inherent complexity and time-consuming nature of PPP arrangements (Agarwal et al., 2023; Kokkaew et al., 2022).

The collaboration between two distinct sectors, each characterized by different operational cultures, incentives, and objectives, introduces persistent challenges in PPPs, particularly in relation to role delineation, performance expectations, coordination, and stakeholder engagement issues that are central to governance arrangements in multi-actor collaborations (Klijn & Koppenjan, 2020; Ansell & Torfing, 2021). In this context, the evolving responsibilities of government managers involved in PPP management have shaped the development of managerial competencies and organizational capacities within the public sector (Nesheim, 2021). Public sector organizations often differ markedly from private sector entities in terms of outcome-oriented project management practices, and disparities in competencies between public clients and private partners frequently result in renegotiations, disputes, takeovers, buybacks, project abandonment, and, in severe cases, project termination (Irfan, 2021).

Globally, an expanding body of literature has highlighted the value of synthesising PPP experiences across countries through systematic and comparative reviews (Leiringer & Zhang, 2021; Saron et al., 2022; Umar et al., 2020). However, existing PPP reviews have predominantly concentrated on macro-level concerns such as policy frameworks, contractual structures, risk allocation, and financial performance, often drawing on evidence from developed economies. As a result, there remains a limited and fragmented understanding of how PPP challenges are experienced and managed at various levels, particularly within the ASEAN region, where distinctive political, institutional, and socio-economic conditions shape PPP governance and implementation. From an institutional perspective, PPP implementation is embedded within formal rules,

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administrative traditions, and organisational norms that condition managerial behaviour and public sector capacity, especially in developing and transitional contexts (Scott, 2014). Despite the relevance of these institutional conditions, prior PPP reviews have rarely examined how governance arrangements and institutional constraints jointly influence PPP management at the micro and meso levels.

To address this gap, the present study systematically synthesises recent empirical literature on PPP challenges in ASEAN, with a specific focus on issues arising across multiple interacting levels. Conceptually, the review is informed by governance theory and institutional theory, which together provide an analytical lens for examining how coordination and accountability mechanisms, managerial roles, organizational capabilities, and institutional rules and norms interact to shape PPP implementation outcomes (Ansell & Torfing, 2022; Klijn et al., 2025; Sørensen & Torfing, 2021). By foregrounding the perspectives of PPP practitioners and public organisations, this study extends existing PPP review literature beyond structural and contractual analyses and contributes to a more nuanced understanding of the constraints affecting effective PPP delivery in ASEAN contexts. The paper is structured as follows: the methodology section outlines the systematic review protocol and procedures, followed by the presentation of results. Subsequently, the findings are analyzed and discussed in depth. The study concludes with a section on limitations and recommendations for future research.

METHODOLOGY

A systematic literature review (SLR) follows a structured and rigorous methodology to systematically collect, analyze, and synthesize existing research related to a specific question. By employing a transparent and replicable approach, SLR minimizes bias and enhances the reliability and validity of findings. This method involves a comprehensive identification, critical evaluation, and integration of relevant literature within a defined research domain (Paul & Barari, 2022). Various frameworks and methodologies exist for conducting SLRs, with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) protocol (Page et al., 2021) serving as a widely recognized standard. This study adopts the PRISMA 2020 framework due to its refined guidelines, which facilitate the systematic reporting of both qualitative and quantitative research, ensuring methodological rigor and comprehensive synthesis.

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Research Question

The formulation of a research question provides a foundational framework for the study. To develop the research question qualitatively, the PICo technique—representing Population (P), Phenomenon of Interest (I), and Context (Co)—is employed (Stern et al., 2014). In this study, the population comprises PPP practitioners, the phenomenon of interest relates to issues and challenges in managing PPPs, and the context is situated within ASEAN countries. To ensure analytical clarity, particularly in relation to individual- and organisational-level challenges, the study is guided by an overarching research question and two sub-questions. The main research question is: *What issues and challenges are reported in the literature regarding the management of Public–Private Partnerships by practitioners in ASEAN countries?* This is further examined through the following sub-questions: *(RQ1) How do the identified issues and challenges manifest across different analytical levels, including institutional, organizational, individual, and relational contexts?*

Eligibility Criteria

Eligibility criteria define the parameters for inclusion and exclusion, establishing the study's scope. This review considers studies published between 2020 and 2024, ensuring the incorporation of recent and relevant research. Prioritizing contemporary studies allows for a deeper exploration of emerging trends and the relationships between recent findings, ultimately enhancing the quality of insights and guiding future research directions (Kraus et al., 2020). To maintain methodological consistency and ensure that the synthesis is grounded in observed practices, the review includes only peer-reviewed empirical studies and excludes review-based, conceptual, theoretical, methodological, and technical papers. Non-empirical sources such as book chapters, monographs, theses, and conference proceedings are also excluded, as they do not consistently provide primary empirical evidence aligned with the study's research questions.Table 1 outlines the inclusion and exclusion criteria for the study.

Table 1:
Criteria for Inclusion and Exclusion

Criterion	Inclusion	Exclusion
Publication Year	2020-2024	Prior 2020

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Keyword	Public-Private Partnership, Public-Private Cooperation, PPP, PPPs, Joint Venture	Other types of cooperation and nomenclatures that are not related (e.g. proactive preventive late payment and underpayment solution (PPPS), privacy-preserving workflow schedule, public participation process etc)
Language	English	Non-English
Research type	Empirical	The exclusion criteria for this study include review-based, conceptual, theoretical, methodological, and technical studies
Type of Document	Journal Article	Book chapter, series, monograph, thesis, conference proceeding

Information Sources

This study employs two reputable academic databases, Scopus and Web of Science, to identify relevant literature. These platforms were selected due to their broad disciplinary coverage, comprehensive indexing, and inclusion of high-quality scholarly publications (Zhu & Liu, 2020). Utilizing both databases minimizes potential bias that may arise from relying on a single source (Wanyama et al., 2022). Nevertheless, it is acknowledged that the exclusive use of Scopus and Web of Science may limit the inclusion of some region-specific or practice-oriented studies, particularly those reported outside academic journals. Grey literature, including policy reports, government documents, and publications by international development agencies, was excluded to maintain methodological consistency and ensure that the synthesis was grounded in empirically rigorous, peer-reviewed studies. While such sources are valuable for understanding policy contexts, they often do not follow standardized research designs required for systematic synthesis. The final data extraction from these databases was conducted on 5 February 2025.

Search Strategy

The search strategy was developed to systematically capture empirical studies examining issues and challenges associated with the implementation and management of Public–Private Partnerships (PPPs). Keywords were selected based on commonly used terminology in the PPP literature and previous systematic reviews, ensuring coverage of alternative expressions describing PPP arrangements and implementation barriers. Core terms included "public–private partnership" and "public–private cooperation", combined with challenge-related terms such as "issues," "challenges," "barriers," "constraints," and "obstacles." These terms were chosen to ensure that the search

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captured studies addressing both managerial and organizational difficulties encountered in PPP implementation. To enhance transparency and replicability, the keywords were combined using Boolean operators to construct the final search string applied across both databases. The search strings were applied to titles, abstracts, and keywords in the selected databases. The detailed search syntax used for each database is presented in Table 2. To ensure relevance to the study context, the search results were further refined to include only studies focusing on ASEAN countries. This was achieved by applying database filtering functions and manually verifying study contexts during the screening stage. Particular care was taken to confirm that the empirical setting of each study was located within ASEAN countries, rather than merely reflecting the institutional affiliation of the authors.

Table 2:
The Search Strings

Database	Search String
Scopus	(TITLE-ABS-KEY (public-private AND partnership) OR TITLE-ABS-KEY (public-private AND cooperation) OR TITLE-ABS-KEY (joint AND venture) OR TITLE-ABS-KEY (public-private AND infrastructure AND project) AND TITLE-ABS-KEY (issues AND challenges) OR TITLE-ABS-KEY (constraints) OR TITLE-ABS-KEY (obstacles) OR TITLE-ABS-KEY (barriers) OR TITLE-ABS-KEY (problems))
Web of Science	TS=("Public-private partnerships" OR "PPP" OR "PPPs" OR "Public-private cooperation" OR "Public-private cooperation" OR "Joint venture" OR "public-private infrastructure project") AND TS=(" issues and challenges" OR "constraints" or "obstacles" OR "barriers" OR "Problems" OR "difficulties") AND DT=(Article)

Selection, Screening and Retrieval Process

The Scopus database yielded 1,995 records, and the Web of Science (WoS) database produced 2,176 records, totaling 4,171. Next, records were screened for ineligibility using the database software's identification features consisting of a time frame from 2020 to 2024, limited to English journal article versions and within the ASEAN context. As a result, 56 records left from Scopus and 47 records from WoS totaling 103 records were gathered. The records have been saved as Excel files which served as the primary screening management tool. Fifteen duplicate records were found and merged between the two databases, yielding a total of 88 consolidated records. Screening is an essential qualitative procedure designed to guarantee that only pertinent and significant studies are included in the review. The remaining records were

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systematically organized into a spreadsheet and allocated equally among the authors for assessment. Through a rigorous manual evaluation, the authors carefully examined the titles, keywords, and abstracts to identify and exclude studies that did not meet the predetermined criteria. Discrepancies between reviewers were resolved through discussion until consensus was reached.

This procedure ensured consistency and reduced potential selection bias during the screening process.Records were excluded based on the following parameters: 1) Studies that fall outside the scope of Public-Private Partnerships (PPPs) or not conducted within the ASEAN context 2) Research focusing primarily on methodological, technical, or operational aspects rather than PPPs implementation and management and 3) Studies were initially classified as research articles but were later identified as non empirical works. While some excluded studies may hold relevance in related domains, they do not align with the specific objectives of this systematic review. As a result, 64 records were excluded, leaving 24 studies eligible for full-text retrieval. Full-text documents were sourced from publisher databases and researcher collaboration platforms. Despite extensive retrieval efforts, one document remained inaccessible. Figure 1 illustrates the methodological process of this study, following the PRISMA 2020 protocol (Page et al., 2021).

Quality Appraisal

To enhance methodological rigour, the quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT), which is specifically designed for systematic reviews incorporating qualitative, quantitative, and mixed-methods research (Hong et al., 2018). The MMAT enables a consistent appraisal of methodological quality across diverse study designs, making it particularly suitable for reviews synthesizing heterogeneous empirical evidence. Each study was evaluated against criteria relevant to its research design, with attention to methodological clarity, data collection procedures, and analytical transparency. The quality appraisal was conducted after the screening process and prior to data synthesis, in line with good practice in systematic review methodology (Petticrew & Roberts, 2006). While no studies were excluded solely on the basis of quality, appraisal outcomes were used to inform the interpretation of findings by highlighting methodological strengths and limitations across the evidence base, rather than to weight or rank individual studies (Thomas & Harden, 2008).

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Data Collection

The final selection of 23 articles was reviewed and summarized in a matrix format, capturing details such as research design, country of data collection, and the industry context of each study. Subsequently, thematic analysis, a systematic qualitative approach for identifying, analyzing, and categorizing patterns within textual data, was conducted (Abdullah et al., 2022; Clarke & Braun, 2017). Through this method, phrases and statements reflecting the issues and challenges of managing PPPs were identified and grouped into specific themes, with consensus achieved among all authors.

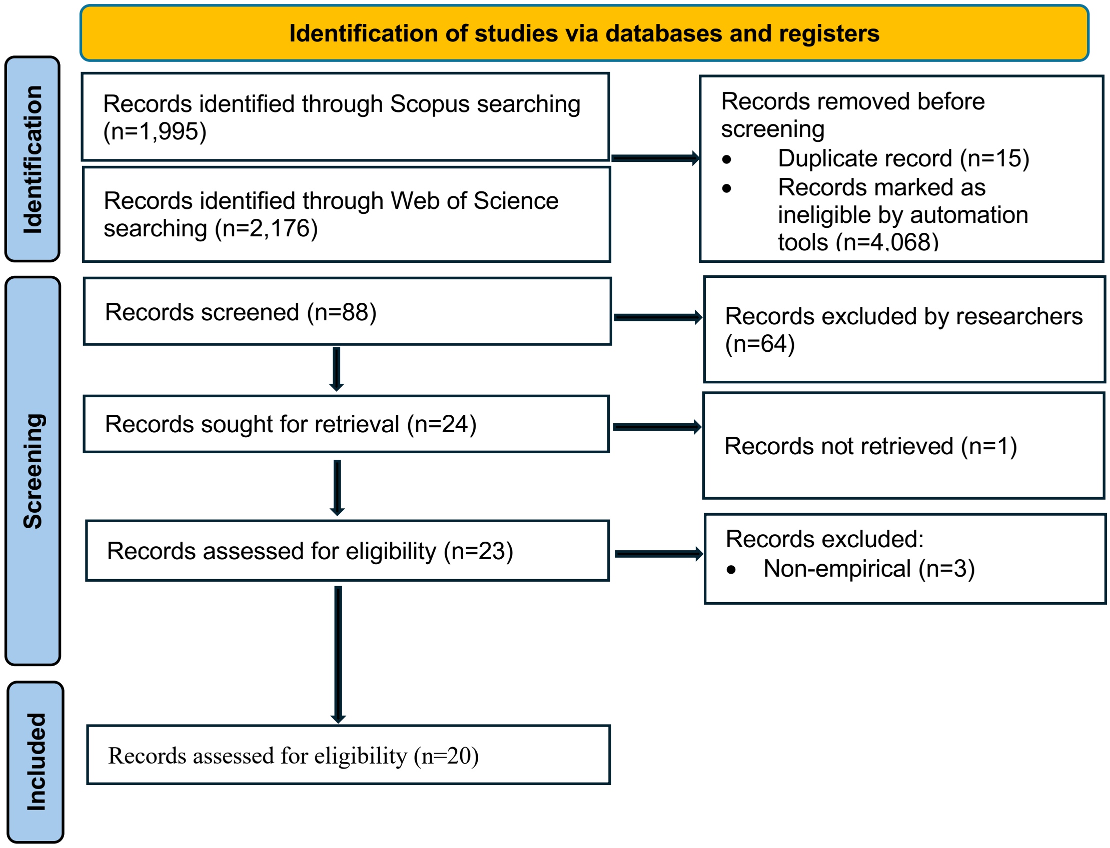

Figure 1: Flow Diagram of the Methodology Processes, Adapted from Page et al. (2021)

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RESULTS

The descriptive analysis of the data provides an overview of the included studies by highlighting key trends and patterns, thereby enhancing transparency in the review process (Hiebl, 2023). An examination of publication trends reveals a noticeable increase in scholarly output in 2023, indicating growing academic attention to PPP-related challenges in recent years. The geographical distribution of the studies shows a concentration of research conducted in Indonesia, Malaysia, Thailand, Vietnam, and Singapore, with Indonesia emerging as a prominent focal point. This concentration aligns with the recurring emphasis in the literature on governance capacity, institutional readiness, and managerial challenges in countries with extensive PPP programmes.

Sectoral analysis indicates that PPP challenges are most frequently examined within transportation (n = 4), energy (n = 4), and infrastructure (n = 3) sectors, followed by waste management (n = 2), engineering (n = 1), water management (n = 1), and healthcare (n = 1). These sectors are typically characterised by complex contractual arrangements and long project lifecycles, which correspond with the prevalence of governance, coordination, and operational challenges identified across the reviewed studies. From a methodological perspective, the dominance of qualitative approaches (n = 11), compared with quantitative (n = 6) and mixed-methods designs (n = 3), reflects the exploratory nature of research on PPP management in ASEAN. Qualitative approaches are particularly suited to examining the multi-level nature of PPP challenges, including managerial practices, organisational processes, and the broader institutional and stakeholder contexts in which PPP projects operate. The diversity in research designs enhances the depth and breadth of understanding of the research topic (Hiebl, 2023). Collectively, these study characteristics provide important contextual grounding for the thematic synthesis presented in the subsequent section.

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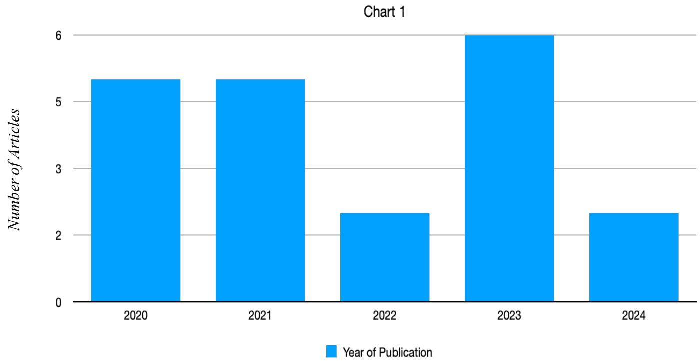

Figure 2: Research Articles Distribution by Year

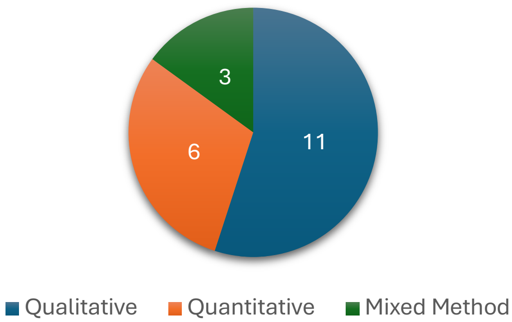

Figure 3: Distribution of Articles by Research Design

FINDINGS

To synthesize the findings from the selected studies, a thematic synthesis approach was employed. This method is widely used in systematic literature reviews to identify patterns and relationships across heterogeneous empirical studies. The synthesis process involved three stages: initial coding, categorization, and theme development. First, relevant findings related to issues and challenges in managing PPPs were extracted from the selected articles. Key statements describing implementation difficulties, governance issues, financial barriers, and stakeholder conflicts were identified from the results and discussion sections of each study. These statements were then subjected to open coding, whereby similar challenges were grouped into preliminary codes

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representing recurring issues reported across the literature. Second, the initial codes were examined and consolidated into descriptive categories based on conceptual similarity. This step enabled the grouping of related challenges, such as regulatory inconsistencies, bureaucratic inefficiencies, and policy fragmentation, under broader institutional level concerns.

The systematic review identifies 7 key characteristics of key issues and challenges that impact the performance and sustainability of the PPPs management. Table 3 summarizes the findings, and further explanation is provided below.

Table 3:
Summary of Issues and Challenges in Managing PPPs

No.	Author(s)/ Year	A	B	C	D	E	F	G
1.	Aggarwal and Usapein (2023)	●	●	●				
2.	Attazahri et al. (2021)	●	●	●	●		●	
3.	Basabih et al. (2024)	●	●	●		●	●	
4.	Haqq and Gultom (2021)		●	●	●			●
5.	Hartarto et al. (2024)	●		●	●	●		●
6.	Jotaworn and Nitivattananon (2021)		●	●	●			
7.	Kim and Kwa (2020)		●	●		●		●
8.	S. Y. Kim and Le (2021)	●	●	●	●	●	●	
9.	Latif et al. (2023)	●	●		●			
10.	Lop and Ismail (2023)	●	●	●				●
11.	Navalersuph and Charoenngam (2021)	●	●	●	●	●		
12.	Nur et al. (2023)	●	●	●				
13.	Nyein and Hadikusumo (2021)	●	●	●				
14.	Phang (2020)	●		●		●		●
15.	Putri et al. (2023)		●	●	●	●		
16.	Subri et al. (2022)	●	●	●				
17.	Surachman et al. (2020)	●	●	●	●			
18.	Tran and Nguyen (2023)	●	●	●	●			
19.	Van Du et al. (2021)	●	●	●	●			
20.	Zawawi et al. (2022)	●		●			●	

Notes: (A) Institutional and Regulatory Challenges, (B) Financial and Economic Constraints, (C) Governance and Managerial Issues, (D) Stakeholders and Partnership Dynamic, (E) Operational and Technical Barriers, (F) Sociopolitical and Environmental Concerns, and (G) Risk and Uncertainty Problems

A. Institutional and Regulatory Challenges

Institutional and regulatory challenges in PPP management stem from inconsistent legal frameworks, bureaucratic inefficiencies, and prolonged approvals, creating ambiguity in project execution and risk-sharing (Basabih et al., 2024; Nur et al., 2023;

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Nyein & Hadikusumo, 2021; Subri et al., 2022; Surachman et al., 2020; Van Dhu et al., 201; Hartato et al., 2024; Agarwal & Usapein, 2023). The absence of clear guidelines for risk allocation and dispute resolution further exacerbates legal and financial uncertainties (Lop & Ismail, 2023; Hartato et al., 2024; Attazahri et al., 2021). Regional policy disparities and weak governance frameworks deter private sector participation, fostering risk-averse behavior (Basabih et al., 2024; S. Y. Kim and Le, 2021; Phang et al., 2020; Kim & Kwa, 2020; Latif et al., 2023; Navalersuph & Charoenngam, 2021). These challenges are not isolated, for instances, governance issues often overlap with financial constraints, creating a compounded effect on the project's success. Addressing these challenges requires comprehensive regulatory reforms to enhance transparency, efficiency, and investor confidence.

B. Financial and Economic Constraints

The studies show that financial constraints significantly hinder PPP implementation, as limited funding access and high financing costs threaten project viability and deter investment (Jotaworn & Nitivattananon, 2021; Haqq and Gultom, 2021; Attazahri et al., 2021; Agarwal & Usapein, 2023; Kim & Kwa, 2020). Revenue uncertainties and financial sustainability risks further increase investor hesitancy (Navalersuph and Charoenngam, 2021), while inadequate incentives reduce private sector participation (Jotaworn & Nitivattananon, 2021). Addressing these barriers requires strategic policies to enhance financing access, risk-sharing mechanisms, and structured incentives, ensuring PPP project sustainability.

C. Governance and Managerial Issues

The studies indicate that PPP management faces challenges from weak oversight and accountability, leading to inefficiencies and transparency issues (Kim & Kwa, 2020; Navalersuph and Charoenngam, 2021). Most of the studies highlighted that the limited managerial competencies and a shortage of skilled professionals further hinder execution (Hartato et al., 2024; Haqq and Gultom, 2021; Lop & Ismail, 2023; Navalersuph & Charoenngam, 2021; Nur et al., 2023), while staffing constraints in both sectors exacerbate difficulties (Basabih et al., 2024; S. Y. Kim and Le, 2021; Zawawi et al., 2022). Political interference, shifting priorities, conflicts of interest (Hartato et al., 2024; Zawawi et al., 2022), and a weak PPP framework (Basabih et al., 2024) create instability. The absence of performance effectiveness indexes (Lop & Ismail, 2023; Subri et al.,

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2022) underscores the need for stronger governance, competency development, and evaluation mechanisms.

D. Stakeholder and Partnership Dynamics

Several studies highlighted that PPP projects face stakeholder conflicts due to differing public and private sector objectives, causing negotiation delays (Jotaworn & Nitivattananon, 2021; Surachman et al., 2020; Van Du et al., 2021). Misaligned expectations and low trust further hinder coordination (Haqq and Gultom, 2021; Latiff et al., 2023; Navalersuph & Charoenngam, 2021). Community resistance can also disrupt projects (Jutaworn), while sustaining long-term partnerships remains challenging (Jotaworn & Nitivattananon, 2021). Strengthening communication, trust-building, and stakeholder engagement is essential for effective collaboration.

E. Operational and Technical Barriers

A few studies indicate that PPP projects face operational and technical challenges, including complex procurement and contract management that delay execution (Navalersuph & Charoenngam, 2021). Infrastructure deficiencies increase costs and reduce efficiency (Attazahari et al., 2021; Putri et al., 2023), while limited risk assessment expertise heightens market vulnerabilities (Phang, 2020; Putri et al., 2023). Strengthening technical capacity, procurement frameworks, and risk management is essential for long-term project success.

F. Sociopolitical and Environmental Concerns

Only a few studies have pointed out the issues of sociopolitical and environmental concerns in PPPs, including public opposition to perceived social and ecological risks, ethical dilemmas, and corruption that undermine transparency (Basabih et al., 2024; S. Y. Kim and Le, 2021; Zawawi et al., 2022). Sustainability challenges in long-term projects further threaten environmental integrity. Strengthening oversight, stakeholder engagement, and ethical governance is crucial for fostering trust and ensuring PPP success.

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G. Risk and Uncertainty Problems

Less studies mentioned on risk and uncertainty problems in PPPs stem from various scenarios such as land acquisition delays (Hartato et al., 2024; Nyein & Hadikusumo, 2021), economic instability (Kim & Kwa, 2020), and evolving business models due to technological advancements (Phang, 2020), and issues of asset lifespan concerns further impact long-term sustainability (Lop & Ismail, 2023). Mitigating these risks requires strategic policy frameworks, adaptive management, and robust risk assessments (Haqq & Gultom, 2021). These themes were further interpreted across different analytical levels, namely institutional, organisational, and relational, allowing for a clearer understanding of how structural conditions, managerial capabilities, and stakeholder interactions collectively influence PPP implementation. This structured synthesis process enhanced transparency and ensured that the themes were grounded in empirical evidence across the reviewed studies.

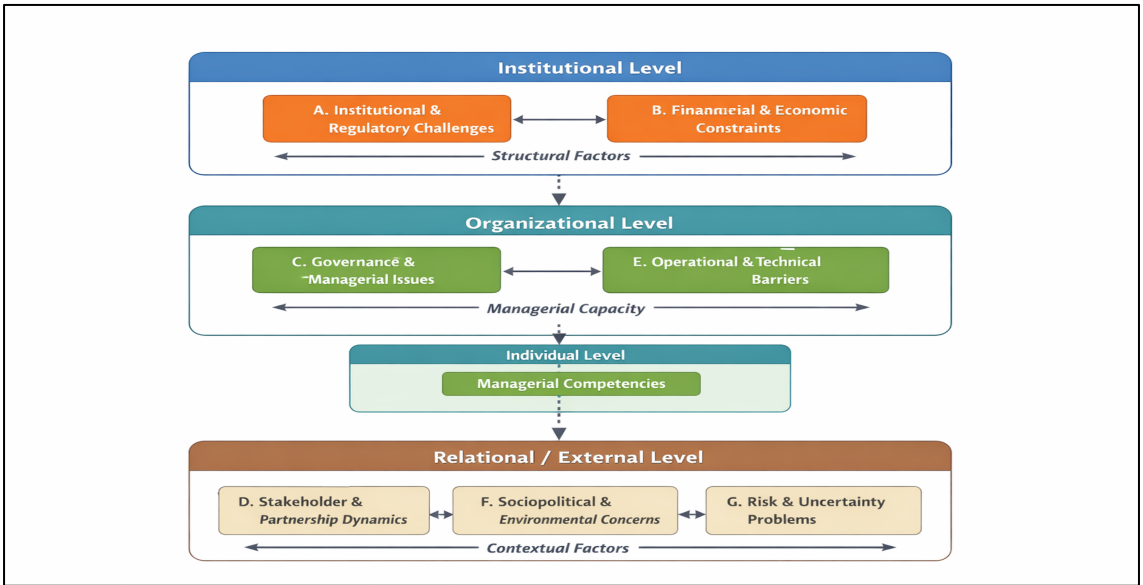

Figure 4: Conceptual Framework of Multi-Level Challenges Affecting PPP Implementation in ASEAN

The conceptual framework presented in Figure 4 organizes the seven identified themes across four analytical levels: institutional, organizational, individual, and relational/external. At the institutional level, structural conditions such as institutional

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and regulatory challenges and financial and economic constraints shape the broader governance and financial environment of PPP projects. At the organizational level**,** governance and managerial issues and operational and technical barriers reflect the internal administrative structures and technical capacities required for PPP implementation. Within this level, the individual level highlights the role of managerial competencies, as the knowledge, skills, and decision-making capabilities of PPP practitioners influence how organizational processes are executed. The relational and external level encompasses stakeholder and partnership dynamics, sociopolitical and environmental concerns, and risk and uncertainty problems arising from interactions among public institutions, private partners, and broader socio-economic conditions. Overall, the framework illustrates that PPP challenges in ASEAN are multi-level and interdependent, where institutional structures shape organizational capacity, organizational systems influence managerial practices, and stakeholder and contextual dynamics affect overall PPP outcomes.

DISCUSSION

This section provides an in-depth discussion of the findings. Drawing from the 7 themes identified in the literature, the challenges and obstacles in managing PPPs can be grouped into several key areas, as outlined below.

Institutional and Governance Deficiencies in PPPs

The findings indicate that institutional and regulatory inconsistencies, coupled with governance and managerial challenges, significantly hinder PPP effectiveness in ASEAN contexts. Inconsistent legal frameworks, bureaucratic inefficiencies, and unclear risk-sharing mechanisms contribute to project delays and financial uncertainty. From an institutional theory perspective, these challenges reflect deeply embedded administrative traditions, fragmented authority, and path-dependent regulatory arrangements that constrain organisational capacity and managerial discretion. In contrast, much of the PPP literature from developed economies emphasises contractual completeness, risk allocation efficiency, and mature governance frameworks as central determinants of PPP performance. The ASEAN evidence suggests that such assumptions do not fully apply in contexts where institutional coherence and regulatory capacity remain uneven. Weak governance structures, political interference, and limited managerial competencies further exacerbate implementation challenges, reducing private

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sector confidence in PPP arrangements. These findings reinforce the argument that PPP effectiveness in developing and transitional contexts is shaped less by contractual design alone and more by institutional stability and governance capacity.

Sustainability and Risk Management Concerns

Sociopolitical and environmental challenges, together with risk and uncertainty factors, represent significant yet underexplored threats to PPP sustainability in ASEAN. Public opposition driven by environmental concerns, ethical dilemmas, and corruption risks undermines project legitimacy and weakens governance arrangements. From a governance theory perspective, these challenges highlight deficits in accountability, transparency, and stakeholder inclusion within multi-actor PPP arrangements. While PPP literature in developed contexts often treats sustainability and risk management primarily as technical, financial, or regulatory compliance issues, emphasising contractual risk allocation and lifecycle efficiency (Grimsey & Lewis, 2004; Yescombe, 2018; OECD, 2012), the ASEAN findings suggest that these concerns are more closely tied to governance legitimacy and public trust. Economic volatility, land acquisition delays, and technological change further amplify uncertainty, underscoring the need for adaptive governance mechanisms rather than static risk allocation models. The limited attention to these dynamics in existing PPP reviews indicates a gap in understanding how sustainability and risk are socially and institutionally mediated in developing regions and its unique administration system and structure.

Competency Discrepancies and Their Impact on PPP Challenges

Challenges, difficulties, and risks are said to be related to competencies with a lack of experience and appropriate skills (Saron et al., 2022; Umar et al., 2023; Quelin et al., 2019). A critical yet underexplored issue in PPP implementation is the mismatch between the competencies required for effective project management and those possessed by public sector managers. In contrast to PPP literature from developed economies, where professionalised project management competencies are often assumed, the ASEAN-focused evidence reveals that these competency discrepancies are not merely individual shortcomings but are structurally reinforced by institutionalised public sector career systems and administrative orientations. Moreover, the absence of specialized knowledge in contract negotiation, financial structuring, and stakeholder management exacerbates delays and inefficiencies. Despite these challenges, existing research offers limited

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insights into how competency requirements vary across different PPP models, sectors, and regional contexts, which is still scarce (Ahmed et al., 2020; Iriarte & Bayona, 2021; Irfan et al., 2021). This represents a significant gap in the literature, as addressing PPP challenges effectively requires a tailored approach to competency development. Future studies should focus on identifying the specific competency sets needed to overcome financial, governance, and its alignment with the operational barriers in different PPP settings. Structured capacity-building programs, specialized training, and knowledge-sharing initiatives must be designed to equip managers with the expertise necessary to align public-private objectives, mitigate financial risks, and navigate evolving regulatory landscapes. By bridging these competency gaps, policymakers can enhance PPP efficiency and long-term sustainability.

The Paradox of Financial Constraints in PPP Implementation

Despite being designed to address public funding limitations, PPPs in ASEAN frequently encounter financial constraints that undermine project viability (Jotaworn & Nitivattananon, 2021; Haqq and Gultom, 2021). While mainstream PPP literature often highlights private finance as a mechanism for efficiency and innovation, the ASEAN evidence reveals a paradox in which limited access to finance, high capital costs, and revenue uncertainty deter investment (Navalersuph and Charoenngam, 2021). From a governance perspective, this paradox reflects misaligned expectations, weak risk-sharing arrangements, and insufficient credibility of public sector commitments. In contrast to developed-country contexts, where financial markets and regulatory frameworks support long-term investment, ASEAN PPPs operate within environments characterised by institutional uncertainty and governance fragility. Operational inefficiencies, complex procurement processes, and weak risk assessment capacity further compound financial challenges, suggesting that financial viability in PPPs cannot be separated from governance quality and institutional capacity.

RECOMMENDATION

Understanding the issues and challenges in managing PPPs is crucial and should be aligned with competency development, particularly within the public service context. While previous research has largely concentrated on identifying and understanding PPP challenges, its coverage across different sectors, regions, and implementation models

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remains uneven, with variations in the application of managerial knowledge and skill sets across industries (Blaskovics et al., 2023; Chileshe et al., 2020). These variations are especially pronounced in public sector organisations acting as PPP partners, where institutional and regulatory constraints and financial limitations shape managerial practices and organisational capacity. As a result, public sector organisations often lack the outcome-driven project management expertise prevalent in the private sector, contributing to renegotiations, disputes, and, in extreme cases, project failures (Irfan et al., 2021). The complexities and variations in PPP constraints across jurisdictions further highlight the importance of addressing governance and managerial issues at the individual level, particularly through the development of competencies in leadership, planning, contract management, conflict resolution, and communication. These competencies are critical for managing stakeholder and partnership dynamics where misaligned expectations and low trust between public and private actors frequently disrupt PPP implementation. Accordingly, public sector organisations and central PPP units should prioritise targeted capacity-building and professional development programmes to strengthen managerial capability and improve coordination across organisational boundaries.

The researcher argues that PPP practitioners must understand not only the issues and challenges encountered in project implementation, but also their underlying causes rooted in organisational systems and institutional arrangements. This integrated understanding is particularly relevant in addressing operational and technical barriers and risk and uncertainty problems such as procurement complexity, technical capacity gaps, land acquisition delays, and economic volatility. Strengthening technical expertise, procurement frameworks, and adaptive risk management capabilities within public sector organisations can enhance implementation effectiveness across complex infrastructure sectors. Finally, although less frequently emphasised in the literature, sociopolitical and environmental concerns underscore the need for stronger ethical governance, transparency, and social and environmental safeguards. In response to these challenges, governments and regulatory authorities should consider streamlining regulatory processes, clarifying risk-sharing and dispute-resolution mechanisms, and reinforcing accountability structures to foster public trust and encourage sustained private sector participation in PPP projects.

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LIMITATION

The findings of this study should be interpreted within certain limitations. First, the focus on identifying the challenges and barriers in managing PPPs across different contexts presents complexities in determining the appropriate level of analysis. Given the variations in PPP frameworks across regions, sectors, and governance structures, there is a risk of potential biases or ambiguities during the identification and synthesis of relevant literature. Future research should consider employing more rigorous analytical techniques or alternative methodological approaches to enhance accuracy and mitigate these challenges. Second, this study relies on two academic databases, which may restrict the comprehensiveness of the literature reviewed. Expanding future research to include additional databases, policy reports, and grey literature could offer a broader perspective, capturing a wider range of challenges and best practices in PPP management.

CONCLUSION

This study presents a comprehensive and distinctive review of the challenges and barriers influencing PPP adoption and implementation at both individual and organizational levels. Through the identification of seven key themes, the analysis categorizes these obstacles into two primary domains: individual and organizational. Additionally, the study underscores the interconnections among these determinants, where certain factors serve as antecedents or precursors to others. It highlights the need for future research to incorporate external influences, such as organizational dynamics, that shape individual competencies and unique competency requirements, attitudes, and behaviors toward PPP adoption. Future studies could also explore sector-specific PPP challenges within ASEAN, such as the unique barriers in healthcare or transportation, to offer more detailed insights. By examining these challenges, the study offers valuable insights into the critical factors influencing PPP success, providing a foundation for researchers and practitioners. Ultimately, it contributes to addressing the existing knowledge gap in understanding the recurrent failures in PPP implementation.

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Conflict of interest

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